

Claims:

1. The use of a sterile nutrient composition derived from the biomass of a culture of bacteria including methanotrophic bacteria, and optionally containing further nutrients, as a microorganism growth medium.
2. A method of culturing microorganisms which comprises bringing together a microorganism and a growth medium therefor, characterised in that said growth medium is or is prepared from a sterile nutrient composition derived from the biomass of a culture of bacteria including methanotrophic bacteria, optionally with the addition of further nutrients.
3. A use or method as claimed in claim 1 or claim 2, wherein said nutrient composition comprises a hydrolysate, homogenizate or autolysate of said biomass, preferably an autolysate.
4. A use or method as claimed in any one of claims 1 to 3, wherein said growth medium further comprises glucose and/or nitrate and mineral salts (e.g. potassium, calcium, magnesium, sodium, molybdenum, iron, zinc, boron, cobalt, manganese and nickel compounds).
5. A use or method as claimed in claim 4 wherein the glucose is present in said growth medium in a dry mass basis weight ratio of 5:1 to 1:5 (especially 2:1 to 1:2) relative to the biomass deriving component.
6. A use or method as claimed in claim 4 or claim 5, wherein the nitrate and mineral salts are present in said growth medium in a weight ratio of 0.01:1 to

0.2:1 (especially 0.05:1 to 0.1:1) relative to the biomass deriving component.

7. A use or method as claimed in any preceding claim, wherein the culture of bacteria used to produce the biomass is at least 50%, preferably at least 60%, especially at least 70%, in particular at least 75%, e.g. 75 to 95%, more particularly 75 to 80%, by weight methanotrophic bacteria (relative to the total bacterial weight).

8. A use or method as claimed in any preceding claim, wherein said culture of bacteria comprises at least one species of methanotrophic bacteria and at least one species of heterotrophic bacteria.

9. A use or method as claimed in claim 8, wherein said culture comprises *Methylococcus capsulatus* (Bath) (strain NCIMB 11132), *Ralstonia* sp. DB3 (strain NCIMB 13287) and *Brevibacillus agri* DB5 (strain NCIMB 13289), optionally in combination with *Aneurinibacillus* sp. DB4 (strain NCIMB 13288).

10. A use or method as claimed in any preceding claim, wherein said culture of bacteria is produced by fermentation on hydrocarbon fractions or on natural gas, preferably from fermentation on natural gas.

11. A microorganism growth substrate comprising a sterile nutrient composition as defined in any one of claims 1 to 3 and 7 to 10, further containing at least one sterile nutrient, and optionally containing a diluent.

12. A substrate as claimed in claim 11, wherein said sterile nutrient is selected from glucose, nitrate and mineral salts (e.g. potassium, calcium, magnesium,

- 23 -

sodium, molybdenum, iron, zinc, boron, cobalt, manganese and nickel compounds), and combinations thereof.

13. A substrate as claimed in claim 12, wherein the glucose is present in a dry mass basis weight ratio of 5:1 to 1:5 (especially 2:1 to 1:2) relative to the biomass deriving component.

14. A substrate as claimed in claim 12 or claim 13, wherein the nitrate and mineral salts are present in a weight ratio of 0.01:1 to 0.2:1 (especially 0.05:1 to 0.1:1) relative to the biomass deriving component.